

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on April 24, 2003, and the references cited therewith.

No claims are amended and no claims are canceled; as a result, claims 1-30 are now pending in this application.

Rejections Under 35 U.S.C. §102

Claims 1-8, 10-11, 13-22, 24-25, 27-28 and 30 were rejected under 35 U.S.C. §102(b) as being anticipated by Eng et al. (US Patent No. 5, 638, 092; hereinafter referred to as Eng).

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Applicant respectfully submits that the Office Action did not make out a *prima facie* case of anticipation because Eng does not teach each and every claim element, as explained in the following discussion. In the following discussion, the teachings of Eng will first be summarized and then the rejected independent claims will be analyzed with respect to the teachings of Eng. Lastly, the rejected dependent claims will be discussed.

Eng teaches a cursor control system for moving a cursor on a computer screen. Eng’s cursor control system includes a finger-mounted ring and a keyboard including receiver coils, a

control circuit, and microprocessor. See Figure 1 of Eng. Eng further describes the ring in Figures 2 and 11. The ring includes a transmitter circuit including an on/off switch and a battery. The on/off switch includes two pads that are pressed to switch the battery power on or off. See Eng at column 5, lines 9-16. Alternatively, the on/off switch includes a single touch pad working in conjunction with a single touch sensor. See Figure 11 and text at column 17, lines 28-44. According to Eng, the transmitter circuit may also include two additional touch sensors working in conjunction with two additional touch pads (e.g., buttons). *Id.* In Figure 11, the transmitter circuit's three touch sensors (see reference numerals 254, 255, and 256) form a linear array of touch sensors.

In rejecting independent claim 1, the Office Action points to figures and passages from Eng as teaching all the elements of independent claim 1. In particular, the Office Action asserts that Eng's Figure 2a and the passages at column 3, lines 46-50 teach a ring including a transmitter circuit. The Office Action further asserts that Figure 11 and the passage at column 17, lines 22-43 teach a transmitter circuit including a substantially circular pattern of sensors.

Contrary to the assertions made in the Office Action, Eng does not teach "a sensor unit comprising a plurality of sensors in a substantially circular pattern," as set forth in independent claim 1, because the Office Action has mischaracterized the teachings of Eng. Firstly, Eng's touch sensors are discrete units, while claim 1 calls for a sensor unit with a plurality of sensors. Therefore, Eng's touch sensors are different from the sensor unit of independent claim 1. Secondly, as noted in the summary above, Eng's Figure 11 teaches a linear array of three touch sensors (254, 255, and 256). In Figure 11, the touch sensors (254, 255, and 256) and touch pads (251, 252, and 253) form a 2 X 2 matrix. In the matrix, each linear row includes a touch pad and a sensor, while the first linear column includes all the touch pads and the second linear column

includes all the touch sensors. Therefore, the touch sensors are arranged linearly and not in a substantially circular pattern. Even if the three touch sensors were rearranged in different spatial layouts, the three sensors would form a triangular pattern and not a substantially circular pattern. Therefore, Eng's sensors do not form "a substantially circular pattern."

In rejecting claims 13-22, 24-25, 27-28 and 30, the Office Action asserts that these claims are substantially similar to claims 1-8 and 10-12. In particular, the Office Action asserts that claim 13 is a method corresponding to the apparatus of claims 1-8 and 10-12. Similarly, the Office Action further asserts that claims 18-22 and 24-25 are a computer system corresponding to the apparatus of claims 1-8 and 10-12. The Office Action also asserts that claims 27-28 and 30 are a program similar to the program of Eng.

Applicant respectfully submits that claims 13-22, 18-22, and 24-25 include different limitations than claims 1-8 and 10-12. Furthermore, contrary to the Office Action's assertion, claims 13-22 are not tied to any particular apparatus, as they are only limited by the elements recited in the claims.

Regarding independent claim 13, Eng does not teach "detecting activation of one of a plurality of sensors arranged in a substantially circular pattern on a sensor unit," as recited in independent claim 13. As discussed above, Eng teaches a linear array of three touch sensors, but not a substantially circular pattern of sensors, as recited in independent claim 13.

Regarding independent claim 18, Eng does not teach a sensor unit comprising "a plurality of sensors in a substantially circular pattern," as recited in claim 18. As discussed above, Eng teaches a linear array of three touch sensors, but not a substantially circular pattern of sensors, as recited in independent claim 18.

Regarding independent claim 27, Eng does not teach "detecting activation of one of a plurality of sensors arranged in a substantially circular pattern on a sensor unit," as recited in claim 27. As discussed above, Eng teaches a linear array of three touch sensors, but not a substantially circular pattern of sensors, as recited in claim 27.

Claims depending directly or indirectly from claims 1, 13, 18, and 27, are patentable over Eng for the reasons argued above, plus the elements in the claims.

Rejections Under 35 U.S.C. §103

Claims 9, 12, 23, 26, and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Eng in view of Russell (US Patent No. 5,481,265; hereinafter referred to as Russell).

The Examiner has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined only if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979)).

Applicant respectfully submits that the Office Action did not make out a *prima facie* case of obviousness for the following two reasons: (1) even if combined, the cited references fail to teach or suggest all of the elements of applicant's claimed invention; and (2) the cited references teach away from applicant's claimed invention.

First, the combination of Eng and Russell does not teach or suggest all the limitations of claims 9, 12, 23, 26, and 29. Each of claims 9, 12, 23, 26, and 29 recites a plurality of sensors arranged in substantially circular pattern. As discussed above, Eng teaches a linear array of touch sensors, but does not teach a substantially circular pattern of sensors, as recited in the rejected claims. For the combination of Eng and Russell to teach or suggest all the elements of the rejected claims, Russell must provide what Eng is lacking. Russell teaches a finger-wearable

user interface apparatus that includes mechanical switches. However, the Office Action does not point to a passage in Russell that teaches a plurality of sensors arranged in a substantially circular pattern. Therefore, the combination of Eng and Russell does not teach or suggest all the elements of each of claims 9, 12, 23, 26, and 29.

Second, in addition to not teaching all the elements, Eng teaches away from the cited combination. A factor cutting against a finding of motivation to combine or modify the prior art is when the prior art teaches away from the claimed combination. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963).

As described above, Eng teaches using touch pads in conjunction with touch sensors. Russell describes a user interface apparatus including mechanical switches. The references teach away from the claimed combination because Eng indicates that mechanical switches can cause unwanted finger motion. Eng states, “A touch sensitive pad is preferred to a mechanical switch because the force required to activate or deactivate a mechanical switch can cause unwanted finger motion.” Eng at column 5, lines 30-33. Therefore, a person of ordinary skill in the art would be discouraged from combining the teachings of Eng with the teachings of Russell.

RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/722996

Filing Date: November 27, 2000

Title: RING POINTING DEVICE

Assignee: Intel Corporation

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Reservation of Rights

Applicant does not admit that references cited under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), or 103/102(e) are prior art, and reserves the right to swear behind them at a later date. Arguments presented to distinguish such references should not be construed as admissions that the references are prior art.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612-371-2169) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24 day of June, 2003.

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